

Appl. No. : 09/921,013
Filed : July 27, 2001

REMARKS

Claims 1-23 are pending. Claims 1-7 and 9-11 have been amended. Claims 12-23 have been cancelled. No new matter has been by way of these amendments. Reconsideration of the present application is requested.

Election/Restriction

Applicants acknowledge the restriction requirement made final by the Examiner. Although Applicants respectfully disagree with the Examiner on this point, Applicants hereby cancel claims 12-23. Accordingly, claims 1-11 are presented for prosecution.

Deposit

Applicants acknowledge the Examiner's determination that the deposit requirement for the present case has been met.

The pending claims are definite

Claims 1-11 stand rejected under 35 U.S.C. §112, second paragraph for allegedly being indefinite. The particular grounds of rejection for claims 1-11 are discussed below.

The Examiner rejected claims 1 and 2 for reciting "an isolated microorganism." This language was alleged to be unclear. Applicants disagree. Nevertheless, to advance prosecution of the present case, claims 1 and 2 have been amended to recite, "A biologically pure culture of *Enterobacter sp.* having all of the identifying characteristics of *Enterobacter sp.* SSYL deposited under accession number KCTC 0687BP." Applicants submit that the subject matter of claims 1 and 2 is definite and particular. Thus, withdrawal of this rejection is requested.

Claims 3-7 and 11 were rejected for reciting the phrase "method of claim 1." As noted by the Examiner, claim 1, from which claims 3-7 and 11 depend, is not a method claim. Applicants have amended claims 3-7 and 11 to depend from claim 2, which is a method claim. In light of these amendments, Applicants request that the rejection of claims 3-7 and 11 be withdrawn.

Claim 9 was rejected for allegedly failing to further limit the claimed method. Specifically, it was not clear to the Examiner whether the subject matter of claim 9 was an alternative method for producing exopolysaccharide. To clarify the claimed subject matter of the invention, claim 9 has been amended to depend from claim 3 instead of claim 8. The change in

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dependency of claim 9 serve to indicate that the additional method steps recited therein provide an alternative method for producing exopolysaccharide. These amendments clarify the subject matter of claim 9 and obviate the rejection thereof. Accordingly, Applicants request that the rejection of claim 9 be withdrawn.

Claim 10 was rejected for allegedly lacking proper antecedent basis. Claim 10 has been amended to recite "lyophilizing the dialyzed precipitate" rather than "lyophilizing the separated exopolysaccharide." Applicants submit that this amendment clarifies the subject matter of claim 10 and obviates the grounds of rejection. As such, Applicants request that the rejection of claim 10 be withdrawn.

Claim 1 is novel and non-obvious in view of U.S. Patent Nos. 4,806,636 or 5,360,737

Claim 1 stands rejected under 35 U.S.C. §102(b) as allegedly being anticipated by or, in the alternative, obvious over U.S. Patent Nos. 4,806,636 or 5,360,737. The alternative grounds of rejection are discussed below.

"Invalidity for anticipation requires that all of the elements and limitations of the claim are found within a single prior art reference... There must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention." *See Scripps Clinic & Research Foundation v. Genentech, Inc.*, 927 F.2d 1565 (Fed. Cir. 1991).

Claim 1 recites a biologically pure culture of *Enterobacter sp.* having all of the identifying characteristics of *Enterobacter sp.* SSYL deposited under accession number KCTC 0687BP. The Examiner has alleged that the *Enterobacter* strains taught in the cited references appear to be identical to the characteristics of the claimed strain. Applicants respectfully disagree.

As discussed in the examples section of the specification, Applicants have identified a novel *Enterobacter*. This observation is supported by experiments discussed in the specification that demonstrate some of the novel identifying characteristics of the claimed microorganism. For instance, in Example 1, Applicants describe submitting the claimed microorganism to a battery of tests, including fatty acid analysis (MIDI), API 20E analysis, BIOLOG analysis, and 16S rRNA sequencing. As set forth in the Declaration by Dr. Young Joo Kim, a co-inventor, each of these tests indicated that the claimed microorganism differed from other known members of

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Enterobacter. Applicants submit that the differences in the characteristics of the claimed subject matter as compared to that of the cited references are sufficient to obviate the rejection of claim 1. Accordingly, withdrawal of the anticipation rejection of claim 1 is requested.

Claim 1 stands alternatively rejected under 35 U.S.C. § 103 as allegedly being obvious over U.S. Patent Nos. 4,806,636 or 5,360,737. Applicants respectfully disagree.

To establish a *prima facie* case of obviousness a three-prong test must be met. First, there must be some suggestion or motivation, either in the references or in the knowledge generally available among those of ordinary skill in the art, to modify the reference. Second, there must be a reasonable expectation of success found in the prior art. Third, the prior art reference must teach or suggest all the claim limitations. See *In re Vaeck* 947 F.2d 488 (Fed. Cir. 1991).

Contrary to the position taken by the Examiner, the characteristics of the claimed subject matter would not have been obvious to one of ordinary skill in the art. For example, the sugar compositions of exopolysaccharides purified from various *Enterobacter* sp. is discussed in Example 3-3. In that example, Applicants indicate that the claimed *Enterobacter* sp. produces an exopolysaccharide comprising glucose, galactose, fructose, fucose, and glucuronic acid. In contrast, neither *E. sakazakii*, *E. agglomerans*, nor *E. cloacae* produced exopolysaccharides having the same sugar components. Additionally, one of ordinary skill in the art would not have been motivated to alter known *Enterobacter* sp. to generate an *Enterobacter* sp. that produced exopolysaccharides with the particular sugar components made by the claimed microorganism. Moreover, even if one of ordinary skill in the art had been so motivated, the cited references fail to provide sufficient guidance to provide one of ordinary skill in the art with a reasonable expectation of success in practicing the claimed invention. Because the cited references fail to support a *prima facie* case of obviousness, Applicants submit that claim 1 is non-obvious in view of U.S. Patent Nos. 4,806,636 or 5,360,737. For these reasons, Applicants request that the present rejection of claim 1 be withdrawn.

Claims 1-11 are non-obvious in view of U.S. Patent Nos. 4,806,636 and 5,360,737 taken with Shimada et al.

Claims 1-11 stand rejected as allegedly being obvious in view of U.S. Patent Nos. 4,806,636 and 5,360,737 taken with Shimada et al. As discussed above, Applicants submit that of U.S. Patent Nos. 4,806,636 and 5,360,737, taken either alone or in combination with one

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another, fail to teach or suggest all of the characteristics of the claimed microorganism. For example, the cited patents fail to teach a microorganism that produces an exopolysaccharide comprising the same sugar components used by the claimed microorganism. As such, Applicants submit that the claimed microorganism is non-obvious in view of the cited U.S. Patents.

The work by Shimada et al. does not cure the deficiencies of the cited U.S. Patents. Shimada et al. was cited to supply particular aeration conditions to the proposed combination that allegedly renders the pending claims obvious. Shimada et al., like the two cited U.S. Patents, does not teach or suggest an exopolysaccharide comprising the various sugars produced by the claimed microorganism. Because one of ordinary skill in the art would not have been able to achieve the claimed invention based on the guidance provided by the cited art, Applicants submit that the pending claims are non-obvious. Accordingly, withdrawal of the rejection of claims 1-11 is respectfully requested.

CONCLUSION

In view of Applicants' amendments to the claims and the foregoing remarks, it is respectfully submitted that the present application is in condition for allowance. Should the Examiner have any remaining concerns, which might prevent the prompt allowance of the application, the Examiner is respectfully invited to contact the undersigned at the telephone number appearing below.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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